CLAIMS

1) Ocean-bottom station designed to perform in situ measurements, comprising a support structure (2, 3) with positive buoyancy with which there is associated at least one detachable ballast (4) to convey said support structure to the bottom of the ocean for the period of a measurement session, the support structure including at least one hydrophone (6), one data acquisition unit (7) to record measurement data and one device for the releasing of said detachable ballast, characterized in that the data acquisition unit (7) is furthermore capable of controlling the releasing device in response to an acoustic release command received by the hydrophone (6).

2) Station according to claim 1, characterized in that the release command is a low-frequency acoustic signal modulated by a carrier signal having a frequency of 8 to 12 KHz.

3) Station according to claim 2, characterized in that said low-frequency acoustic signal is proper to the station.

4) Station according to any of the above claims, characterized in that said low-frequency acoustic signal comprises a plurality of consecutive elementary signals of a first type and of a second type representing a sequence of bits proper to said seismic station, the elementary signals of the first type and

of the second type respectively representing bits with a value 0 and bits with a value 1, or vice versa.

5) Station according to claim 4, characterized in that the elementary signals of the first type are signals that are linearly modulated in frequency from the frequency f1 to the frequency f2, with f2>f1, and the elementary signals of the second type are signals linearly modulated in frequency from the frequency f2 to the frequency f1, or vice versa.

6) Station according to one of the above claims, characterized in that, to detect a release command in the signal received by the hydrophone (6), the data-acquisition unit (7) comprises means (100) to sample said received signal and detection means (110) to detect the presence of the low-frequency signal in the sampled signal by digital correlation and deliver a release command to the releasing mechanism if said low-frequency signal is detected.

7) Station according to one of the above claims, characterized in that the support structure of the station is constituted by a spherical glass enclosure (2) placed inside a protection shell (3), said spherical enclosure (2) being resistant to the hydrostatic pressure present at depths that may go up to several thousands of meters.

8) Station according to claim 7, characterized in that it furthermore comprises a flash light (9) placed inside said spherical enclosure (2) to produce light when the support structure is raised to the surface after the releasing of the ballast, the protection shell (3) being given apertures to let through the light produced by said flash light (9).

9) Station according to any of the above claims, characterized in that the ballast (4) is attached to the support structure by elastic cords (5) that are fixed, by a first end, to said ballast (4) and, by a second end, to a metal ring (15) destructible by electrolysis.

10) Station according to claim 9, characterized in that releasing mechanism comprises a switch controlled by the detection means (100) of the data acquisition unit (7), said switch making an electrical current pass into the metal ring to destroy it when it receives a release command.